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known as *Ægeria acerni* Walker (*Trochilium acerni* Clem.).—C. V. Riley, *St. Louis, Jan.* 20, 1874.

The Anatomy of Worms.—Claparède's elaborate posthumous work with fifteen plates, on the anatomy of the sea worms, appears in the "Mémoires de la Société de Physique et d'Histoire Naturelle of Geneva.

GEOLOGY.

The N. W. Wyoming Expedition.—The summer of 1873 is noted for the number of expeditions which were organized for the purpose of explorations in the territories, and the almost uniform success which has resulted, from a scientific point of view. Among all of these none has perhaps attracted so little attention as the small band which quietly set out from Omaha on the second day of last June, with the purpose of accomplishing, with the smallest possible appropriation, what three successive parties, led by the most intrepid and daring explorers of the western country, had pronounced impossible.

This expedition, in a tour of some eight or nine hundred miles, made a careful topographical, geological and botanical survey of a large portion of unexplored territory in N. W. Wyoming, adjacent to the National Park, and connected the whole with the work of previous explorers by a complete reconnoissance of the park itself. The principal geological results have already been published in outline,* and the writer has prepared a paper for the Naturalist, relating more especially to the features of the Yellowstone Park, I must therefore content myself, in this place, with a very brief account of the most important results of the expedition.

Besides the unravelling, in a great measure, of the complicated mountain system of the great central water-shed of North America, the head waters of the three great rivers which here diverge, as from a focal point,† were explored and mapped, and several new passes were discovered, through the rugged walls of the Sierra Shoshone‡ mountains. After a successful tour of the whole of the reserved tract, during which ample collections were made, the party ascended the valley of the Upper Yellowstone River, rediscovering the "Two Ocean Water" of Lewis and Clarke, which has recently been pronounced a myth. This interesting phenomenon is nothing more nor less than a mountain stream which, flowing down the mountain side, at its base splits quite curiously into two distinct streams, one going northerly to the Upper Yellowstone River, thence *via* the Missouri and Mississippi rivers to the Atlantic waters; the other, flowing southerly, reaching the Pacific ocean by way of Snake River and the Columbia.

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*American Journal of Science, December, 1873.

†Missouri, Colorado, and Columbia rivers.

‡Name given by Capt. W. A. Jones, commander of the expedition, to the snow-clad walls upon the east of the Yellowstone Lake.

But the greatest geographical result, as well as the most important for other reasons, was the discovery of a pass through the Wind River range of mountains, at its northern limit, which renders the park accessible from the head of Wind River. This was one of the main objects of the expedition, the "*impossibility*" of its forerunners.

While it is impossible to give, in detail, the work of the several departments, it may be said that all was accomplished in the most thorough manner, as the reports will show when completed. In geology, the collections comprise specimens from all of the western formations, from the metamorphic rocks to the most recent, including material of volcanic origin and from the drift, as well as geyser and hot spring deposits in quantity. Many of the recent products are fully as interesting as those of an older date, and the surface and dynamical geology of this region present a vast field for study.

I have dwelt upon the geology, because more specially interested in that subject, but the botanical and other results are no less interesting. No zoölogist accompanied the expedition to collect, but Mr. J. D. Putnam, assistant to Dr. Parry, obtained a number of insects besides attending to his regular duties. I also noted the larger and more common animals which I observed from time to time. Dr. Heisman, surgeon to the expedition, collected specimens of the water and many of the deposits of the springs and geysers, for analysis.

For a more extended account of these explorations I must refer to the articles before mentioned.—THEO. B. COMSTOCK, *Geologist.*

MONKEYS IN THE AMERICAN MIOCENE.—Prof. Cope, while investigating the palæontology of Colorado in connection with Hayden's geological survey of the territories during the past season, detected the remains of what he states to be a quadrumanous mammal allied to the lemurs. It has been named *Menotherium lemur-*

inum, and was as large as the domestic cat. The existence of peculiar forms of lizard, serpents and lemurs constitutes points of resemblance to the Eocene fauna of Wyoming not previously recognized in our Miocene formations.

THE GENUS PROTOHIPPUS.—This form of horse is characterized, according to Leidy, by a peculiarity of the permanent teeth which belongs to the temporary teeth of *Equus*. Prof. Cope has recently obtained nearly complete skeletons of several species, and finds that like *Hippotherium* they have three toes. He describes a new species, *P. sejunctus*, in which the legs are considerably longer and the head relatively larger than in the true horse, having thus proportions of body, as well as dentition resembling the colt.

MICROSCOPY.

A NEW FORM OF MICROTOME.—The microtome in common use consists essentially of a round hole in which the object is wedged, and forced above the guiding surfaces of the instrument by a screw acting beneath. Various forms are to be found that differ in size, but agree in principle, that of Beck being, perhaps, as convenient as any, though I have used one consisting of a disk furnished with a graduated series of holes and revolving so that any desired aperture could be brought over the screw, which, for making sections of stems was much more desirable. Dr. Hunt of Philadelphia has the apparatus set in a freezing box, thus making a refrigerating microtome, and by bedding animal structures in soap, which expands and fastens them more strongly than paraffine or other compositions used for that purpose, it answers very well.

But having occasion to cut a number of plant tissues, especially fern stems, I found it very desirable to have oblique sections, to show more perfectly the scalariform tissue, and the only way I could accomplish this with the ordinary instrument was to cut a diagonal crease in the flat sides of a split cork, to hold the stem, and, inserting the cork, cut the whole as one piece and sort out the ferns from the cork. Some tolerable sections were obtained in this way, but the results were generally so unsatisfactory that I was led to devise a new instrument capable of more adaptation, the construction of which is shown in the accompanying figure. *A* and *B* are guiding surfaces (in my instrument of glass), formed